ABSTRACT OF THE DISCLOSURE

Method of ingress or egress intrusion detection by ultrasound surveillance throughout volumetric multi-area room around a protected object, where the surveyed room is arranged in juxtaposed volumetric closed or open areas that represent central, short-range and long-range echelons of defense-in-depth intrusion protection infrastructure. The used techniques of ultrasound intrusion detection are based on the phenomena of reflection, refraction by edge diffraction, and interference by shadowing of ultrasonic beams. The ultrasonic beam patterns are closely disposed in 2-D curvilinear or polygonal array, or in 3-D curved surface lattice over multilevel substantial openwork frames of different echelons. The informational and processing inter-echelon interrelation is being treated by control software algorithm that features situational logic transition driven by IF-THEN operator. The disclosed method shall enhance the distance of location, trustworthiness and cost-effectiveness of ultrasonic intrusion detection arrangements.

[[9]] 8 Claims, 9 Drawing Sheets